

Appl. No. 10/022, 708
Amdt. Dated March 2, 2007
Reply to Office Action of July 11, 2006

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AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously Presented) A solid-state image sensing device comprising:
a plurality of groups of sensor devices, each of the group of sensor devices comprises at least one line of pixels and at least one charge-transfer part for further transferring signal charges read-out from each pixel of the line of pixels; and
wherein a time in which it takes to read-out signal charges from each pixel in the pixel line and transfer the charges to one end of the charge-transfer part is different for at least one of said groups of sensor devices out of said plurality of groups of sensor devices; and
driving means which, during a read-out period of a first group of sensor devices, stops charge-transfer driving of the signal charge of a second group of sensor devices.
2. (Previously Presented) A solid-state image sensing device according to Claim 1,
wherein said groups of sensor devices are formed on the same chip.

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3. (Previously Presented) A solid-state image sensing device according to Claim 1, wherein said time in which it takes to read-out signal charges from each pixel in the pixel line and transfer the charges to one end of the charge-transfer part is different for each group of sensor devices.

4. (Previously Presented) A solid-state image sensing device according to Claim 1, wherein said driving means further comprises charge-transfer driving of at least a final transfer stage of the charge-transfer part in said first group(s) of sensor devices during the period when the remainder of the charge-transfer driving of the signal charge in said second group(s) of sensor devices is stopped.

5. (Previously Presented) A solid-state image sensing device according to Claim 1, wherein said driving means further comprises restarting of transfer driving of the signal charge in said second group(s) of sensor devices in accordance with the output timing of said first group of sensor devices.

6. (Previously Presented) A method for driving a solid-state image sensing device, the image sensing device comprising a plurality of groups of sensor devices, each of the group of sensor devices comprises at least one line of pixels and at least one charge-transfer part for further transferring a signal charges read-out from each pixel of the line of pixels, wherein a time in which it takes to read-out signal charges from each pixel in the pixel line and transfer the charges to one end of the charge-transfer part is different for at least one of said groups of sensor devices out of said plurality of groups of

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sensor devices, the driving method comprises stopping transfer driving of the signal charge of a second group of sensor devices during a read-out period of a first group of sensor devices.

7. (Previously Presented) A method for driving a solid-state image sensing device according to Claim 6,

wherein said groups of sensor devices are formed on the same chip.

8. (Previously Presented) A method for driving a solid-state image sensing device according to Claim 6,

wherein said time in which it takes to read-out signal charges from each pixel in the pixel line and transfer the charges to one end of the charge-transfer part is different for each group of sensor devices.

9. (Previously Presented) A method for driving a solid-state image sensing device according to Claim 6,

wherein charge-transfer driving of at least a final transfer stage of the charge-transfer part in said first group of sensor devices is continued during the period when the transfer driving of the signal charge in second group of sensor devices is stopped.

10. (Previously Presented) A method for driving a solid-state image sensing device according to Claim 6,

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wherein restarting of transfer driving of the signal charge in said second group of sensors is in accordance with the output timing of said first group of sensor devices.

11. (Previously Presented) An image scanner comprising a solid-state image sensing device for an image sensor to read a document image, the solid-state image sensing device comprising:

a plurality of groups of sensor devices, each of the group of sensor devices comprises a line of pixels and a charge-transfer part for further transferring signal charges read-out from each pixel of the line of pixels; and

wherein a time in which it takes to read-out signal charges from each pixel in the pixel line and transfer the charges to one end of the charge-transfer part is different for at least one of said groups of sensor devices out of said plurality of groups of sensor devices; and

driving means which, during a read-out period of a first group of sensor devices, stops charge-transfer driving of the signal charge of a second group of sensor devices.

12. (Previously Presented) An image scanner comprising a solid-state image sensing device for an image sensor to read a document image, the solid-state image sensing device comprising:

at least a first group of color-sensor devices and a second group of monochrome-sensor devices formed on the same chip, each group of sensor devices comprising at least one line of pixels and at least one charge-transfer part for further transferring signal charges read-out from each pixel of the line of pixels; and

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driving means which stops charge-transfer driving of the signal charges of the charge-transfer part of the color-sensors during a reading period of the monochrome-sensors.

13. (Previously Presented) A solid-state image sensing device according to Claim 1, wherein the pixels of said first group of sensor devices and said second group of sensor devices comprise photodetectors.

14. (Previously Presented) A method for driving a solid-state image sensing device according to Claim 6, wherein the pixels of said first group of sensor devices and said second group of sensor devices comprise photodetectors.

15. (Previously Presented) An image scanner according to Claim 11, wherein the pixels of said first group of sensor devices and said second group of sensor devices comprise photodetectors.

16. (Currently Amended) An image scanner according to Claim 12 ~~16~~, wherein the pixels of said first group of color-sensor devices and said second group of monochrome-sensor devices comprise photodetectors.